

**ABSTRACT**

There is provided a method of promoting neurogenesis by administering a therapeutic amount of a nitric oxide donor compound to a patient in need of neurogenesis promotion. Also provided is a compound for providing neurogenesis having an effective amount of a nitric oxide donor sufficient to promote neurogenesis. A nitric oxide compound for promoting neurogenesis is also provided. Further, a method of augmenting the production of brain cells and facilitating cellular structural and receptor changes by administering an effective amount of a nitric oxide donor compound to a site in need of augmentation is provided. There is provided a method of increasing both neurological and cognitive function by administering an effective amount of a nitric oxide donor compound to a patient.